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CHRYSANTHEMUMS.

1 BELLE PAULINE
2 JAS. Y. MURKLAND



OCTOBER, 1888.

AT THIS SEASON the gardener and the housekeeper will be actively forecasting for the winter display of flowers and plants. Skillful hands will already have brought forward to a good state of development most of the plants that are to make the decoration of the greenhouse and the window for the next six months. A good stock of Chrysanthemums will unfold their beauties some weeks later, and by proper management, if suitable varieties have been selected, will continue in bloom until the close of the year. Chinese Primroses should now be stocky little plants and making a vigorous growth, and so, also, Geraniums of all kinds, and Begonias, Bouvardias, Carnations and Callas; and these constitute a large bulk of the plants most relied upon for winter flowers. Heliotropes, winter-blooming Fuchsias, Abutilons, Azaleas, Roses, Jasmines, and others are raised in smaller numbers by the amateur, and play a minor part.

But all these, though in great variety, fail to satisfy us, since so many other blooming plants can be made to contribute their brightness to the dull months. Those who have the best collections of the kinds named will not fail to supplement them with a liberal stock of the bulbous plants which flower freely in the winter months; and those who, by

circumstances, have been prevented up to this time from having a collection of plants can now take advantage of the opportunity of the present season to lay in a stock of bulbs in such variety that they may have abundance of bright, sweet flowers nearly all winter. Reference is now made specially to the Holland bulbs, which can be so cheaply procured and so easily raised. In regard to the methods of treating these bulbs our readers are all well informed, but we would impress upon them the importance of laying in a sufficient quantity of them to give a continuous supply of flowers from January to May, as may be done. What can be brighter or more delightfully fragrant than the Hyacinths? What gayer than the Tulips? What sweeter than the Narcissus? And then we need only to mention the names of Crocus and Snowdrops, and Scillas and Ixias, and Anemones to bring to the mental vision a most delightful sight. These plants represent the greatest amount of winter bloom for the least expenditure of time, care and labor.

But let us look about for what more there may be in the way of bulbous plants of easy culture suited to the same purposes. First, let us notice the Freesia. Here is a plant admirably adapted to the greenhouse and the window garden. Its

graceful, white flowers are pleasingly fragrant. The bulbs can be potted for several weeks in succession during autumn, and thus a supply of them be provided to bloom continuously from mid-winter to the latter part of spring.

The *Chionodoxa*, or Glory of the Snow, a bulb of comparatively recent introduction, is as easy to raise as any of those already noticed. It has flowers that are porcelain blue with white centers, and are produced abundantly.

The one peculiar treatment that is essential to the welfare of all potted bulbs is that they be set away in a dark, cool place, but one free from frost, where they can develop their roots before the growth of leaves commences. When the roots have filled the soil and are running around the sides of the pots, the bulbs can be brought into a light place, and then the leaves and flower stems will be produced, but the blooming will be abortive if attempted sooner.

Besides the bulbs already named we might still mention the *Oxalis*, a number of varieties of which are excellent, free-flowering plants of the simplest culture. The *Lily*, in its many varieties, kindly responds to pot culture. Some of the best varieties are the *Auratum*, or Gold-banded Japan Lily; the common *White*, or *Candidum*; *L. Japonicum longiflorum*; *L. Harrisii*, or Easter Lily of Bermuda; *L. speciosum*, or as it is better known in the trade as *L. lancifolium*, both *rubrum* and *album*, and the variety known as *L. Præcox*. The value of the *Lily* of the Valley for winter-blooming is well known.

Another excellent bulbous plant for winter flowers is the *Cyclamen*. The species most in use, and the best, is *Cyclamen Persicum* in its cultivated varieties.

Leaving the bulbous plants we may go to the garden and there find something to reinforce the stock of window and greenhouse plants. Clumps of *Astilbe Japonica* and *Dicentra spectabilis* may be potted in good soil in rather large sized pots, and if kept in a low temperature will after a time make a fine display.

Among hardy, shrubby plants there is one that is a general favorite as a pot plant; this is *Deutzia gracilis*. Its delicate white flowers are suitable to mingle with those of the choicest plants in cultivation, and every gardener seeks to have a supply of this plant for cutting in win-

ter. Good, shrubby little plants can be lifted this month and potted, and be kept in a cool place. The danger of all these plants is bringing them too quickly into heat. As for this shrubby plant, after removal it should have time in a low temperature for its broken roots to heal over, and then be allowed to make its new growth slowly in a temperature of about fifty degrees. As it advances the temperature may be increased, but all of the plants that have been mentioned at this time will give their most satisfactory results if the atmosphere where they bloom is never above sixty to sixty-five degrees.

Reading in a foreign journal, recently, an account of a new plant for the greenhouse, a transcription of it may be of interest. At the same time we would warn our readers of the fascination of an intense and vivid style. Under the title of "An Excellent Plant for the Greenhouse," a French horticulturist, M. LEQUET, thus writes in the *Revue Horticole*:

"Suppose an amateur, tired with repeated failures, should come to you and say, 'I wish a plant which, in winter, will make the greenhouse gay, and in summer will be an ornament to the garden; which will have a regular and active growth, which to beautiful foliage adds the merit of pretty leaves, which is easy of propagation and not expensive at the start, and, finally, which shall present to the senses as well as to the mind a phenomenon at the same time curious and instructive.' These qualities of a white blackbird could scarcely be mentioned before you would be ready to reply:

"'Look for yourself, or, rather, do not look. Nature is prodigal, it is true; but in her prodigality she is still economical. If she opens one hand, she knows well how to shut the other at the same time. Her budget is fixed and she administers it according to the law of organic equilibrium or compensation.'

"That is in effect the answer I should myself have made. Nevertheless there are exceptions; very good mother, that she is, Nature has also her spoiled children. Fond of the so-called greenhouse plants and seeking constantly to increase their number, I have noticed one especially which seems to me to answer to the description that has been made. I am not about to mention a novelty; it is an old species, but one that is but little

known and little disseminated. For the rest it is as follows :

"Its leaves, which recall those of the *Xanthoceras*, or the Mountain Ash in miniature, are of a lustrous, bright green, with a light coppery tint when young. They are composed of ten to fifteen pairs of leaflets. The general effect of the foliage in elegance and lightness is equal to some *Mimosas*. At the least touch an aromatic oil escapes from the pores, and a tonic, stimulating sensation is perceived by the sense of smell, like that produced by the leaves of the Ginger plant. It is, perhaps, to these balsamic emanations that these plants owe their immunity from insect attack.

"The stem is straight, very strong, and requires no support. Without pinching, or training it branches out at about six to eight inches above the soil. How graceful are its slender, drooping branches! From the bark oozes out a balsam or resin which hardens in the air, and which the Peruvians chew to harden the gums, but has a peppery taste which is not disagreeable to those accustomed to the use of it.

"The foliage is persistent or evergreen, and thus the plant is always elegantly clothed. With the arrival of the month of August the plant will make its best toilet, and you can see it then covered with pretty panicles of whitish little flowers.

"It will thus be able to do duty in the ranks of the white-flowered shrubs at a season when gardeners often feel the need of them for festival occasions. Besides, its flowers are dioecious, that is to say that certain plants are male and others are female. It follows that plants of the different sexes should be near each other in order to produce seed.

"As to the fruits, they are globular drupes which, when they appear, add to the plant an additional ornament. It is well to remark that around the seed is an acid pulp which can be used as a substitute for vinegar. Naturally this property is not well marked except in its native country, Peru.

"And the culture? It is one of astonishing simplicity. We do not propose cuttings, nor budding, which are horticultural operations; we employ a means less simple, the seeds. From each seed springs rapidly a plant which, though it

does not so quickly bloom, will be very vigorous."

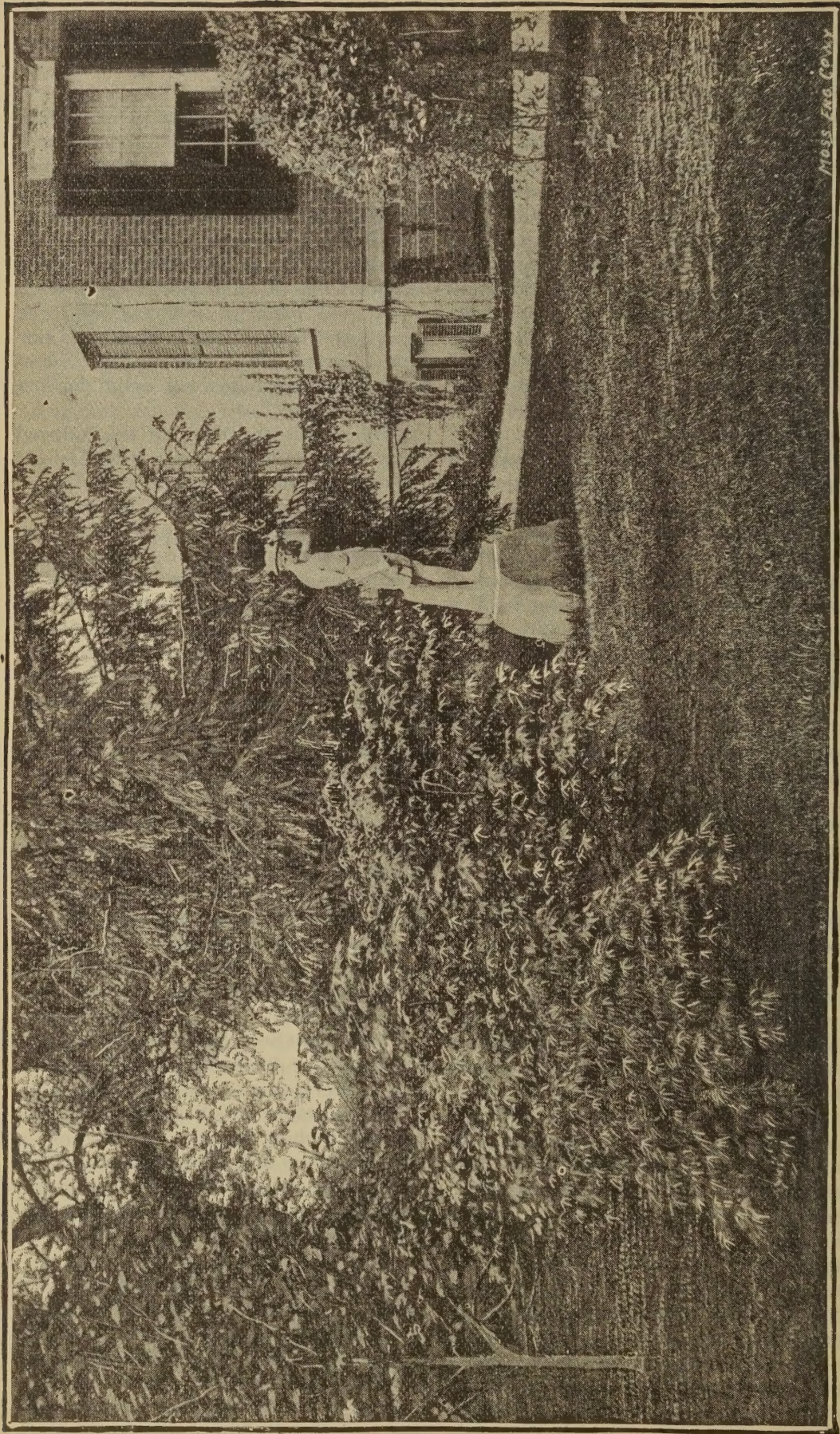
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"Here, then, we have a plant such as a true horticulturist might wish; sufficient hardiness, vigorous growth, fine form, luxurious foliage and a generous flowering habit. In order to crown all that, it has a beautiful name, easy to remember; it is *Schinus Molle*, or False Pepper Tree. Is that all? No. Detach a leaf and break it into two or three pieces, and then throw them on the surface of some clear, still water. Forthwith these fragments will make jerking movements.

"When this phenomenon is produced before bright young people it will surely provoke an inquiry on their part for its cause. Now, inquiry is the first step in science; and, once entered upon, one never wishes to retrace his steps. Botany reveals to us that leaves are formed of cells, and that in this plant the cells contain a volatile oil which escapes intermittently in little particles when the cellular walls are broken or torn. The force of the escaping oil is so strong against the surface of the water that the little cells, and, consequently, the leaf which contains them, is subjected to a series of recoils varying in degree with the number of cells that have been ruptured. This oil may be very similar to camphor, for a lump of this substance will act in nearly the same way on distilled water. Nearly insoluble in this liquid, it would remain still if it did not continually emit vapors which, by their contact against the water, produce a curious gyration.

"This plant belongs to the order *Terebinthaceæ*, or *Anacardiaceæ* of LINNÆUS. The former name recalls that of turpentine, a substance which these plants contain. Camphor appears to be only a chlorohydrate of (*térébenthène*) terebinthin, which is obtained by treating the essence of turpentine with hydrochloric acid, an account which explains the similarity of the phenomena.

"So attractive a display as this was not needed to incite to activity the high faculties of HUMBOLDT, the celebrated author of *Cosmos*. The simple sight of a colossal Dragon Tree, and of a Fantailed Palm in the old part of a botanical garden, early inspired him with the desire to



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GARDEN SCENE—GROUP OF JAPAN MAPLES IN FOREGROUND.

visit tropical regions, and to make there an accumulation of observations which honor the human intellect, and which gave him a universal reputation.

"Let one, then, cultivate the *Schinus Molle*. It will be the companion of the fly-killing *Dionea*, of the Artillery Plant, *Pilea*, of the hygrometric *Erodium*, of the inflammable *Fraxinella*, of the butterfly-catching *Physeanthus*, of the sensitive *Mimosa*."

The Pepper Tree grows to a height of twelve to fifteen feet, or more, in California, and is there very much admired as a lawn subject. If it will bloom and fruit in a pot and remain of small size, as above described, it may be worth the trial by those so situated as to be able to give it room. The fact of its growing readily from seed places it within easy reach.

JAPAN MAPLES.

A sufficient length of time has now elapsed since the Japan Maples commenced to be planted in this country to assure us of the hardiness of some of the finer varieties. *Acer polymorphum*, and its colored-leaved varieties, bear the winters here without injury, and as they are planted from year to year our lawns are being enriched with them.

The specific name of this Maple, meaning many forms, indicates its striking peculiarity, that of producing its leaves in a variety of forms. The plant is a shrub rather than a tree, as its growth is very slow, and probably it will not, at the best, exceed ten feet in height. Trees of eight or ten years planting are now only some six feet high. The leaves are small, five lobed, bright green, changing in autumn to a dark crimson. Varieties of most other species besides that of *A. polymorphum* that have been tested here have not proved sufficiently hardy.

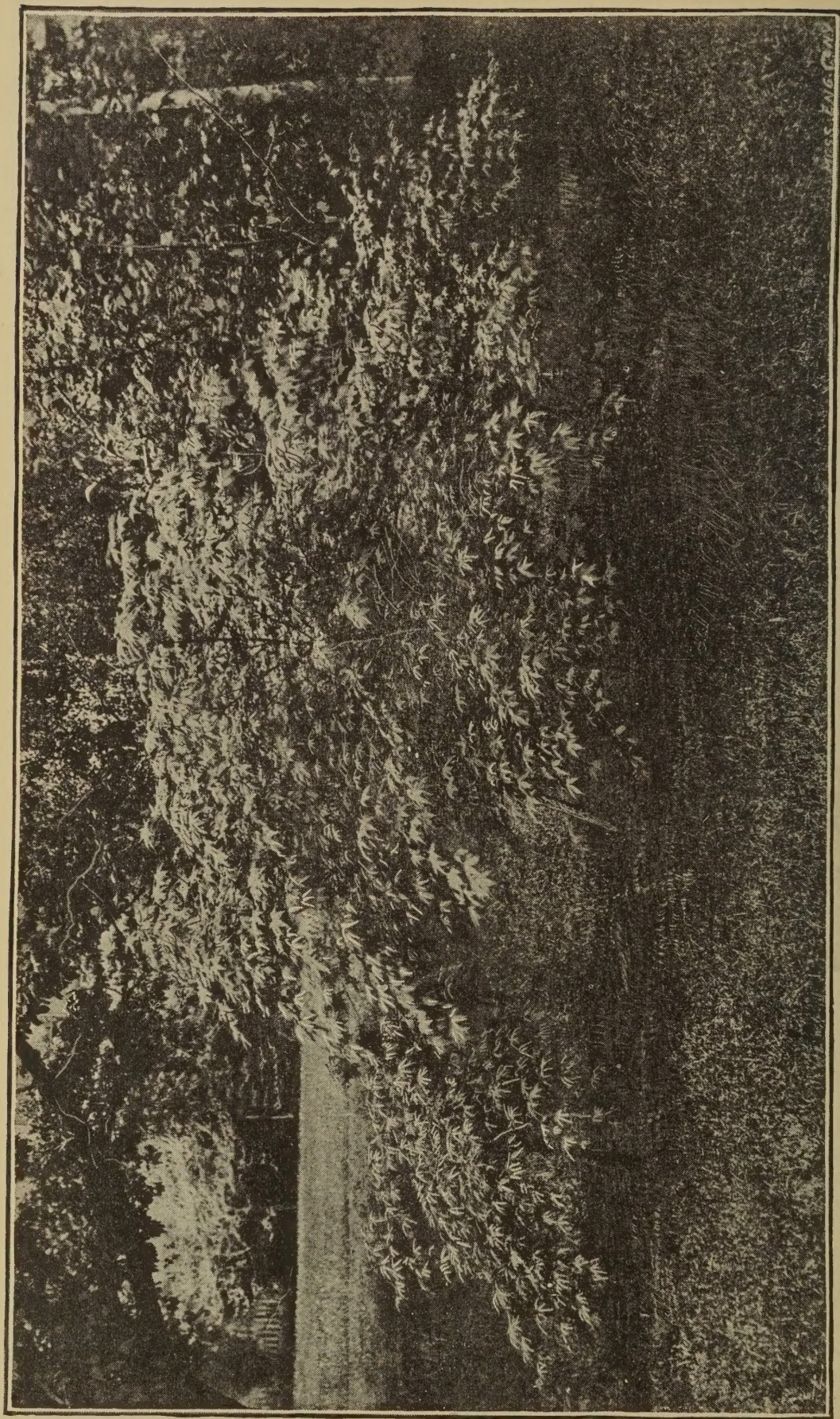
FULLER, in his *Practical Forestry*, says; "Polymorphum furnishes the greatest and most unique varieties of all. They have leaves of various shades of color, from pure green to the richest rose and crimson, and the foliage of some is so finely cut that it appears more like the feathers of some gaudy-colored bird than that of leaves of a hardy tree or shrub. Some of the varieties have leaves handsomely variegated with white, green and yellow, and these colors are retained nearly the entire season. Words, however skilfully applied in a description of these pretty little trees, would scarcely convey a correct idea of their peculiar beauty, for they must be seen to be fully appreciated."

The best of the colored-leaved varieties are probably *Atropurpureum*, *Dis-*

sectum and *Sanguineum*. These thrive well here, and with their deeply divided leaves, form some of the handsomest ornaments of the garden.

An English writer, a few years since, wrote as follows of the variety *Atropurpureum*: "There is, in the grounds here, a plant of this Maple eight feet in height, and as much through the branches, which reach almost to the ground. It is now densely yet elegantly clad with its pretty palmate leaves of a bright, almost dazzling, crimson. It is a living wonder amongst the various green tints surrounding it. Seen near or from afar, it is the one object that arrests the eye. Compared with it, the Purple Beech is somber. As the growth matures the leaves become subdued, until about the end of June a second growth of fiery foliage is added to the first."

The variety *Dissectum atropurpureum* is of a dwarf and weeping form. The leaves are of a beautiful rose color when young, and change to a deep purple as they become older. They are deeply and finely cut, giving them an elegant fern-like appearance, and unlike that of any other tree. The young shoots are slender and drooping, and colored like the leaves. These plants can be set on the lawn singly or in groups, and by preference should be placed, if possible, where they will have a background of green and taller trees. They are frequently kept in pots and form beautiful decorations to the greenhouse. Of the history of these varieties before their introduction to this country, very little is known, but it is probable that they are the result of long years of cultivation and selection, and through a series of seedlings.



JAPAN MAPLE SEVERAL YEARS PLANTED.

A BOTANIZING TOUR IN THE SOUTH.

NUMBER 2.

The "Land of the Sky," is the name given by enthusiastic travelers to the mountain region of Western North Carolina. The name is not undeserved, for here, within a "Sabbath day's journey" of each other, may be seen Mount Mitchell, the highest peak east of the Rocky Mountains; Bald Mountain, celebrated for its many abortive attempts to rival Mount Vesuvius; Black Mountain, dear to the heart of the vacation-seeking school ma'am; other "peaks," "knobs" and "balds," too numerous to mention.

The metropolis of this ethereal region is Asheville, situated at the confluence of the enchanting Swannanoa River and the still more beautiful French Broad. The altitude is about two thousand six hundred feet, and the air is remarkable for its dryness. The scenery is beautiful beyond power of pen to describe. Mineral springs hot and cold, iron, sulphur and other sorts are plentiful; they abound on all sides. The noted Hot Springs of Carolina are about thirty miles from Asheville,



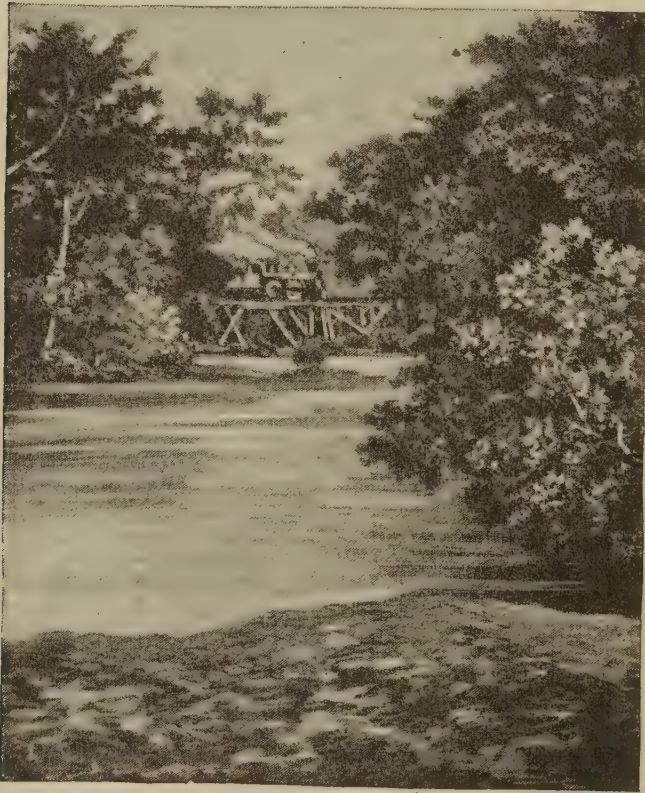
MOUNT MITCHELL, NORTH CAROLINA.

and are reached by a ninety minute rail ride down the French Broad. The water of these springs is quite tasteless, but hot enough to scald one's hand. Cold sulphur, alum and iron springs are within a pleasant drive of the town. Besides its specialty of taking summer boarders, Asheville does a thriving manufacturing and commercial business. It has increased its population from six thousand in 1880 to over thirteen thousand in 1888. The town indulges in gas, electricity, water works, street railroads and similar luxuries.

One of the first things to attract the notice of the traveler from the low lands is the beauty of the horses everywhere seen in this section. In the low country of the Carolinas the average farm and city hack horse is the sorriest jade out of the traditional bone-yard; here, in the mountains, the case is far otherwise. The omnibus and common cart horses seen on the streets are great limbed, round flanked, sleek looking creatures, showing indubitable evidences of Norman blood. Patriotic natives of the pine barrens will, perhaps, accuse us of having been smitten by the *genus loci*, for Asheville is the county seat of the far-famed Buncombe county. Buncombe is as celebrated in America as Gascony is in France, and for the same reason

—the romantic, self-assertiveness of its inhabitants. But facts are facts, and whose doubts, let him come and see.

The French Broad, so named, I presume, by the Buncombe people, is a very narrow, rapid and muddy stream. It flows westward, and through the Tennessee and Ohio Rivers, eventually mingles its waters with those of the Mississippi. In its course from Asheville to its confluence with the Tennessee it furnishes power enough to turn all the spindles in the nation, but very little of the available power is as yet employed. The valley through which it winds its turbulent course is quite narrow with very steep bluffs, and not infrequently perpendicular sides of naked granite, which remind one of the cañons of the Rocky Mountains. These bluffs and peaks are usually heavily timbered to the very top, the prevailing forest growth being Whitewood (*Liriodendron tulipifera*), Black Walnut, Butternut, Cherry, Locust, Maple, Ash, Hickory, and Oaks of several species. All of these trees attain



SCENE ON THE SWANNANOA RIVER.

the largest size known to lumbermen, and their manufacture into merchantable lumber is one of the chief industries of this region. The lesser shrubs and flowering herbs include Willows of five or six species, Dogwood, Persimmon, Chestnut and Buckeye, Rhododendrons, Laurels, and others.

At the date of our visit, May, the bluffs of the French Broad and Swannanoa Rivers were all ablaze in places with the flame-colored flowers of *Rhododendron calendula-ceum*. Other spots were covered by the nearly as showy, though less startling, *Kalmia latifolia* (Calico-bush), while in outlying or inaccessible spots which have as yet escaped the ravaging hand of the summer boarder, the large, pure white flowers and

glossy, broad leaves of *Rhododendron maximum* may be seen. In shady, damp nooks may be found *Aquilegia Canadensis*, *Dicentra eximia*, *Silene Pennsylvanica* and the large, purple blossoms of *Rubus odoratus*. This is evidently another Buncombeism, for the flowers are entirely inodorous. Yellow *Potentillas*, white *Fragarias*, and Raspberries, and Brambles of numerous species add to the color and character of the scenery. Several species of *Clematis* were noted, but were not yet in flower.

The chief agricultural staples of the country are in the order given. Tobacco, Corn, Wheat, Rye, Barley and hay. The soil is a yellow clay, exceedingly adapted to the grass family, which is well represented in the indigenous flora. It ought, therefore, to be a fine stock-growing country, and was so before the war, but little attention is now given to that branch of agriculture. Some dairy cattle are kept, but apparently for other purposes than the making of butter, for during a stay of three weeks in Asheville we had oleomargarine of the choicest brand served up three times a day. Truly, man is a most unreasonable animal, the Darwinists to the contrary, notwithstanding. Here is an out-of-the-way corner of the world, with

plenty of pure mountain air, the richest pasturage in the world to be had for nothing, yet the trail of the bogus butter-fiend is over it all.

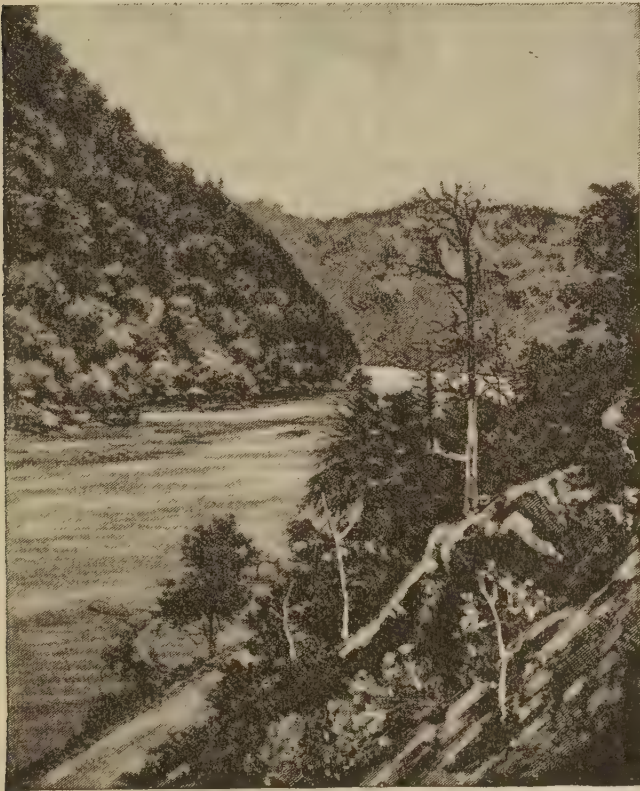
The mountains around the city contain rich deposits of iron, gold and mica, all of which minerals are mined to more or less extent. Tourmaline, and several other stones used in jewelry are also found in quantities.

GERALD MCCARTHY.

POMOLOGICAL NOTES.

IT WON'T DO.—I often see it advised not to make the ground so rich as to cause a vigorous growth of trees that are regarded as rather tender to cold. This looked reasonable to me, and for a good many years I believed it; but, slowly, experience convinced me that it wasn't so. Perhaps, if our winters were more nearly uniform, it might, but once in not a very great while comes a "test" winter, and then where are your coddled, "almost hardy" trees? When a variety is hardy enough to live through these test winters it is hardy enough to stand good soil, while without enrichment of the land we get very little satisfactory or marketable fruit.

A BETTER WAY.—Top-grafting is a better way. I don't just know why it should be, for if a tree top-grafted with a slightly tender sort is well treated, the grafts make as vigorous a growth as though they had been low-grafted or budded. Nevertheless, they do stand the hard winters better. Thus, the Fameuse, which bears our moderate winters well, is, as a root-grafted or low budded tree, pretty thoroughly demoralized by a winter like that of 1886-87; while my trees of top-worked Fameuse, either on iron-clad Russians or hybrid Siberians are yet in good condition. Baldwin growers, along the northern limit of that variety, long ago recognized this fact, and grow



AMONG THE CLIFFS OF THE FRENCH BROAD.

it only top-worked.

THE HYBRID SIBERIANS.—This is a singular class of Apples, ranging greatly, as would be naturally expected from their varying paternity. Nearly all the improved Crabs now cultivated, such as Van Wyck Sweet, Bailey's Crimson, Whitney's No. 20 and Green's Martha are unquestionably hybrids of the common Apple upon the red or yellow Siberian Crabs which have been for so many years planted for ornament chiefly. The latter are short-lived, and worthless as stocks either for top or root-grafting; but not a few of the hybrids make vigorous, long-lived trees, very suitable for stocks. They are, however, uncertain in this respect, and therefore inferior to the Russians, among which I find Tetofsky, Oldenburgh and Switzer, especially the last, very superior for top-working the valuable "almost hardy" sorts.

CRAB HYBRIDS AND RUSS-HYBRIDS.—I have a large collection of the first, but, as yet, very few of the last. In fact, I know of no variety that is certainly, or even

probably, a Russ-hybrid. But great efforts are now being made, especially in the northwest, to produce them. The Crab-hybrids are generally very liable to blight, which is so similar to (if not the same as) the well known pear blight, while many of the Russians are quite as exempt from it as our common Apple. Besides this, the iron-clad Russian winter Apples, when removed ten degrees southward, as they have to be in bringing them to the United States, fail as long keepers. What is, therefore, very important to do is, to cross some of our known long keepers upon the longest keeping Russians. Many are at work upon this.

ANOTHER WAY, and probably a better one, is to grow seedlings of the best keeping Russians, with the reasonable expectation of finding still better keepers of merit among them. This can be cheaply done on the large northwestern farms, the seedlings being planted out along the fences and highways. They will, after fruiting, make profitable stocks for top-grafting, if valueless in themselves, while among the tens of thousands that can be thus so very cheaply and profitably produced there must be found, here and there, many better keepers than their parents, and among these some that will be worthy of general cultivation as market Apples. There are a few long keepers now known among the imported Russians, such as Barsdorf and Little Seedling, but they are too small and otherwise objectionable,

THE WEALTHY APPLE, which is un-

mistakably a Crab-hybrid, as is the almost equally meritorious Northfield Beauty, of Vermont, has the defects of its parentage. It is not very subject to blight, but the tree follows its Siberian ancestry in being short-lived. The original tree has, I believe, already perished, and after sixteen years' trial I find very few entirely perfect and vigorous trees among my several hundreds. I am now aiming to top-work Wealthy upon Switzer, one of the most free-growing and symmetrical of all the pure Russian Apples that we have, and, what is better, perfectly iron-clad in wood and bark. I have been much in doubt as to the permanent value of Oldenburgh as a stock for top-grafting, and get nothing positive from other experiments. Tetofsky is very good and forces slow bearers, like Prolific Sweeting and Golden White among the Russians, into prompt fruitage. But it also has a dwarfing effect, and is not entirely free from bark disease. I feel very sure that Wealthy upon Switzer will be a perfect and long-lived tree, serving more than one generation faithfully. The Switzer itself is a valuable Apple were it not for the fatal defect of dropping before maturity. In quality and beauty of color the fruit has no superior among the Russians, and it is above medium in size. If, upon so perfect a tree, we can work the Wealthy, or some equally good and longer keeper successfully, the future of commercial orcharding in the "cold north" will be decidedly brighter than now.

T. H. HOSKINS, M. D., *Newport, Vt.*

THE PERENNIAL GARDEN.

While annuals are altogether lovely and their successful cultivation adds greatly to the brilliancy and charm of the garden, they bear the same relation to the sturdy perennials that the "summer acquaintance" does to the long tried friend; their brief reign over, we turn thankfully to the Anemone, the Pansy and the Christmas Rose.

There is no better season than autumn for rearranging or for beginning the perennial garden; any time from the first to the last of October, or, in fact, as long as the ground remains unfrozen. In the intermediate period of the "melancholy days" there is so much more leisure to

do everything thoroughly than in the press of spring duties and the haste of a backward season; then, it is such a satisfaction to step out the moment the snow is off, and find an orderly plat of ground with everything ready to go right on growing. Many plants do much better to be divided and reset in the fall, among them, Hollyhocks. If the flower garden is adjacent to the vegetable garden, in the delightful, old-fashioned way, place them for the dividing line, and for a background. Superfluous clumps may be put at the back of the lawn, setting straw-colored and dark crimson ones together, and pink and white, or lemon and white.

The great bunches of Perennial Phlox should be separated and newly set in fresh soil in October. The roots then become established and go right on growing in the spring as if they had never been disturbed. Enough can hardly be said in favor of this flower, which is, perhaps, one of the most desirable hardy plants, adding greatly to the brilliancy of the garden, with its immense trusses of bloom. A dozen, or even a half dozen, sorts will ensure a gay border from the last of July until the middle of September. A variety which has given great satisfaction is Madame Moreau, of rosy-violet color with a carmine center. Comtesse de Chamboord and Rose of Castile are also beautiful in coloring. Then there are lovely snow-white, rich crimson and salmon varieties.

An old-time flower which has been restored to favor is the Helianthus, or Double Dwarf Sunflower, a hardy, showy acquisition to the garden. In these days, when yellow is so popular in floral decoration, it is also a great acquisition to the bouquet maker, being especially effective with masses of green for filling large vases. It has the merit of transplanting readily and becoming established quickly. A root brought from a friend's garden, last autumn, has been a mass of bloom for six weeks. If this flower has a clump of *Eulalia Japonica zebrina* on one side of it, and a cluster of *Euphorbia*, which, once in the garden, self-sows, and may be transplanted easily, on the other, the effect is charming.

Pæonies deserve the first choice among the perennials; their fragrance, their exquisite tints, and the readiness with which they adapt themselves to any soil, make them general favorites. Of course, they are much finer in rich ground, and if well cared for, yet they will endure neglect in the most patient manner. Beginning with the single early variety, which blooms in the middle of May, and with its rose-pink petals and golden heart, is very charming, followed by the old-time, large, double crimson, and then a succession of the lovely Chinese sorts with their rose tints and odors, there may be a constant show of these flowers for two months. The double crimson ones are wonderfully effective against a background of evergreen, anywhere, in fact, where there is plenty of room, and where

a mass of glowing color is needed. It is better to plant Pæonies in the autumn, and to place them where they will remain for some time undisturbed.

Another flower, which never, even under the most adverse circumstances, fails to produce its graceful clusters of blossoms, is the Perennial Pea. It is a hardy climber, about ten feet high, and is useful to train to a bit of fence, a stump, or to plant at the base of a hedge; or, if promoted to the garden and supported by a frame, it will outshine its neighbors with its luxuriance of bloom.

The *Lychnis* is also showy and easy of cultivation, and a cluster of the white or scarlet varieties adds to the beauty of the garden.

A great favorite with our grandmothers was the Lemon Lily, with its starry, odorous flowers. Then it seemed to lose prestige, and was relegated to the roadside, but is now restored to favor and offered to the public under its botanical name, *Hemerocallis*, or as the Golden Lily, and is a most desirable perennial. It is really one of the loveliest of the early summer flowers; graceful in shape, of exquisite color and rich odor, it beautifies the lawn with its golden blooms, and is especially adapted to a situation where a mass of color is desired. The clump of lance-like leaves, so vividly green, are ornamental even when the blossoming time is past.

While the *Yucca* is best adapted to the lawn, if it must be in the garden place it in a circular bed and surround it with low-growing perennials. I like to surround it with Pansies, neither interferes with the other, and the bright little faces look up to the stately plant like so many courtiers rendering homage to a king. Then the rich soil and careful cultivation given the Pansies make a truly tropical plant of the *Yucca*.

The *Hyacinthus cardians* is another stately, hardy plant, throwing up a stem of graceful, well-shaped flowers, blooming the last of August; it is well adapted to plant in the Lily border, and to be given the same treatment, that is a covering of coarse manure for winter protection.

The Lily is, after all, the queen of the garden, or, at least, disputes the scepter with the Rose, for no flower gives so great and such satisfactory returns for so

so little care. A properly prepared bed in the beginning, with plenty of room, the plants kept free from weeds and a slight protection given from the severity of winter, and what a wealth of fragrance, of grace and beauty. A large bed of white Lilies of the *L. candidum* variety, and a sprinkling of self-sown scarlet Poppies was a little arrangement of nature which delighted everybody the present season. The *Lilium auratum*, the *L. lancifolium* varieties, and the *L. longiflorum* with the dainty little scarlet Siberian Lily, the *L. tenuifolium*, make a charming bed. The latter varieties should be planted in the foreground, as they are low-growing sorts. It is much better to plant all Lilies in autumn, and where they may remain undisturbed for years.

The *Dictamnus Fraxinella* is among the less common of the perennials, and is a particularly fine, graceful flower.

Among the *Aquilegias* there is the yellow variety, from Arizona, of a lively canary tint, which blooms continuously and makes a brilliant contrast to the intense blue of the spikes of the Perennial Larkspur.

A useful and showy plant for the back of the garden is the Hibiscus, or Perennial Mallow, with its large, white, pink or rose flowers, which are produced freely on a dense bush of from five to eight feet in height.

Then there are the Sweet Williams, the

Foxgloves and Campanulas, which by merely transplanting the self-sown seedlings, may be had in abundance when they are once established.

And there is the Ragged Robin, the Valerian, and a dozen other old-fashioned flowers, which will ensure a succession of blossoms and add to the interest of the garden.

But the most beautiful hardy, herbaceous plants for autumn flowering are the Japan Anemones. They are so robust, so cheery, going on with their blooming in the face of all weathers, and giving us their beauty until the end of autumn. They are typical of that true friendship which never varies in the storm or sunshine of life, and lasts to the end, and are worthy to be one of the poet's flowers; the *A. alba*, particularly, rising with so much dignity and purity from the cluster of green leaves, might remind them of a graceful woman. The *A. rubra*, a rose-colored variety, is useful and showy, and both white and red improve yearly, requiring little care.

In this praise of the perennials there is no disparagement meant toward the lovely annuals. Those who have limited space and time to devote to flowers, will find the Verbena plants best suited to their needs, and with just a few annuals will have a showy garden, and better yet, an abundance of flowers for cutting.

ADA MARIE PECK.

THE CRAB APPLE.

While the Crab Apple has not received too general favor, owing, I suppose, to the impressions its ancestors created, it is yet slowly but surely gaining ground for its vigorous growth and long lived qualities, its handsome appearance, its surety of crops and the greatly improved size and beauty of its fruit. It is one of the finest of small ornamental trees and quite hardy to the extreme north.

It not only will stand cold better, but is hardier in every way than the Apple, and would commend itself to the fruit grower where circumstances are not favorable to Apples. While grown for cooking and for cider in the east, it is more largely planted in the northwest, where it succeeds when all other kinds fail. There is no fruit which makes nicer preserves

or jelly. The jelly is clear as crystal and of a fine flavor. The tree is a great bearer, and will attempt too much unless severely pruned, which means insures a surprising change in the fruit in both size and quality. It never fails in bearing.

Its flowers are large and handsome and its fruit varies in color from cherry-red to yellow and striped and splashed with light red. The skin is thin and almost transparent, flesh firm and juicy, and flavor very pleasant. For cider making it is unsurpassed, and this alone would seem to render it popular.

Of varieties, Hyslop, deep crimson, large and hardy; Transcendent, yellow, striped with red; Van Wyck, large, color light red, very sweet and tender;

Whitney's No. 20, beautiful, early and very large, a really good table Apple and one of the best varieties; Hudson River Crab, and others, are becoming known

for their excellent qualities. Every fruit grower, however limited, should plant a few trees for use and ornament.

H. K.

WINTER SUNSHINE.

The sun is first, best and most practical of decorators, so let us throw open the shutters, pull up the blinds and let him reign king throughout the house from early October till balmy June. It is true we shall never attain the ideal home for comfort and flowers until our houses are constructed so as to whirl on an immense swivel, so that we with our living-rooms and window bowers may follow the sun and keep in his happy light all the day; then we may hope to be "happy as the day is long."

Meanwhile, as we cannot have in this world what we would like, let us make what we do have as likable as possible. To this end we will try to shut our eyes to the "winter of our discontent" as far as possible, and there is no better way to achieve this than to make our winter home to blossom as a Rose.

The winter sitting-room should be chosen from the pleasantest in the house. This can be no other than that with a southerly and westerly outlook. No matter if other rooms are more showily decorated with paper, paint and trimmings, we can do better, and therefore be happier here, with naught but the sun and our plants.

Choose for winter blooming plants those that are well grown but have never budded, if possible. Ivies should be set remote from the glass, if in the windows at all; though they love best a shady corner and plenty of drink, as they are both modest by nature and feverish in temperament.

Geraniums should be firmly potted in rich soil, and be given plenty of sunlight. Until the plants are thickly set with many branches do not neglect to nip off the last two leaves of each new branch as it attains a growth of three or four inches. Nothing is more disheartening to a lover of flowers than to be shown a Geranium that has sent upward for two feet, perhaps, two, three, or four, rank, transparent stalks, with a few light hued, long stemmed leaves up and down its length, and, perhaps, a solitary cluster

of buds at the spindled out top, and to have its too easily satisfied cultivator introduce it gushingly, with "Do see how nice my plants are doing; aren't they tall?"

One who knows a healthy plant, with the true instinct of a flower physician, feels the same sort of indignation with the amateur, and the same sort of sympathy for the plant that the family physician feels when some silly mamma is proud of the very physical weaknesses that, in her ignorance, she has first caused and then intensified; he sees the end—so does the flower lover. The tall, pale-hued plant has not been properly restrained, disciplined or fed, so that it is like the undisciplined, ill-fed child, a sort of monstrosity that no after training can ever quite restore to what should have been its normal state of health and beauty.

As the child may be improved by fortunately passing out from the unwise influence, perhaps into a reformatory, so the plant may in time become more presentable, if its owner will cut the branches off ruthlessly within five inches of the root, and then persistently nip back each branch, as before suggested. If the plant's constitution has not been broken, *i. e.*, its roots weakened, in a few months one can have quite a symmetrical plant.

If a plant has a tendency to grow thriftily one side and in a weakly way on the other, keep the sick side toward the sun, and persistently cut back the branches on the other. Do not let the earth in the pots get either baked hard nor dry and dusty; neither err on the other side and keep them in a state resembling a mud-puddle. See how nature waters her plants; a heavy rain, and then they are permitted to dry off occasionally. When the leaves of a plant soften and turn yellow, it usually means, "You have given me so much water I am sick at my stomach. A baby could throw it off; I can not, so I can only die." Heed this yellow moan and give that class of plants less water.

Some of the window plants will need water daily, many are better for going a bit dryer a day or two. No two varieties need, and few will thrive under, the same treatment. Callas can scarcely have too much water in a warm room. In fact, in a hot room they thrive beautifully if the earthen jar they are in stands constantly in a tub of water. This is not necessary, and only people of judgment should experiment with the suggestion.

Foliage Geraniums need large pots, rich earth and a moderate supply of water. Flowering Geraniums, if not more than six months or a year old, should never be potted in more than a five or six-inch pot.

Begonias like plenty of water, rich earth and all the sun they can get, so as to dry off daily and drink again freely next morning.

Heliotropes should be broken off at least once a week for six months. Break off the last three inches of each branches' growth, and make a slip or cutting of it by pulling off the leaves for two inches, and set this plucked stem down firmly in the pot. By so doing with a young Heliotrope one can, in a few months, have a mass of foliage and a wealth of blooms.

The amateur will do well to follow the same plan persistently with Verbenas, which have a wretched habit of going astray, that is, growing, like bad habits, in a few scraggly directions, with neither beauty nor force. But, well pruned, they can be made to grow strong and thriftily. Common sense and observation of plant habits will go a good deal farther toward beautifying one's south windows than a dozen theoretical books on the subject.

KESIAH SHELTON.

IN OCTOBER DAYS.

I wander down the russet lane
And see the autumn's bonfires burn
Upon the hillside slopes again,
Among the Sumac and the Fern.

The Oaks have caught October's fire,
And drop their treasures in the grass,
While the still flame creeps high and higher,
Fanned by the warm winds as they pass.

The sky is dim in purple haze;
The spell of dreams is over all,
Unknown, save in the long, still days
When flowers fade and dead leaves fall.

What memories come to me of her
Whose tender smile so much I miss;
Who was a forest-worshipper
When earth blushed at October's kiss.

Here, on this knoll, we sat to see
That day of autumn fade away;

"And life is fading," whispered she,
"As fades this sweet, enchanted day."

And here I gathered, from the moss,
Belated blossoms for her hair,
And felt her tresses blow across
My cheek, and fancied sunshine there.

And here we stopped to talk awhile
Of dreams we hoped would all come true.
Dear heart, the sunshine of your smile
Breaks on me as I think of you.

So far, and yet how near to-day!
I miss you, yet I have you here,
And reach to touch your hand, and say,
That love outlives the dying year.

And though I find but empty air
Where I had thought to touch your hand,
I feel you with me everywhere;
O, truest heart, you understand.

EBEN E. REXFORD.

BOTANICAL STUDIES.

There has long been an impression abroad that the pursuit of botany is impractical. To the writer it has always seemed just the reverse, and he cannot understand how any person who stops a moment to consider, can think so. The following reasons may show how very important a science it is:

1. Plants prepare all food for animals. All that we eat comes directly or indirectly to us through the agency of plants, which feed upon earth, air and water, thus making food for animals.

2. Plants are the source of many of our most valued drugs and medicines. To illustrate, we name quinine, camphor, opium, turpentine, aconite, strychnia, aloes, belladonna, rhubarb, and a hundred others.

3. Plants are the source of much of our clothing and textile fabrics. We name cotton, hemp, flax and jute, and the plants which are used to produce paper.

4. Plants directly or indirectly furnish our fuels and artificial lights. Wood and coal are vegetable products. Petroleum

and natural gas are, by most scientists, believed to be such also, hence, the electric light alone is not of vegetable origin.

5. Valued dyes and chemicals come from plants, as madder, logwood, indigo, safflower, turmeric, litmus, and the coal tar colors now so much used. Also, all kinds of gums used in varnish making, gum arabic, gutta-percha, caoutchouc, and amber; the valuable acids, oxalic, citric, tannic, tartaric and acetic, and the valuable fixed and volatile oils.

6. The stimulants, so widely used, have a vegetable origin, viz.: tea, coffee, tobacco, spices and alcohol.

7. In the mechanical arts the uses to which woods, straw, leaves, bark, etc., are put, are almost innumerable.

8. Plants clothe the earth, beautifying, enlivening and protecting it, wasting erosion is prevented, the rainfall regulated and climate ameliorated.

9. Plants purify the atmosphere. Like animals, plants breathe, but they breathe in the poisonous gases which animals ex-

hale, and in turn set free the life-giving oxygen. Thus, the air is at all times kept in a condition suited to animal life.

10. As a study, botany is excellent to train the perceptive powers of the mind. No study is better for this purpose than botany.

11. A knowledge of plants cannot but make a man a better farmer, a better physician, a better gardener, a better teacher, a better minister of the gospel, indeed, it is difficult to conceive of a condition in life which would not be enlivened and made better through a knowledge of plants.

"There breathes for those who understand
A voice from every flower and tree,
And in the work of Nature's hand
Lies Nature's best philosophy.

"Flower in the crannied wall,
I pluck you out of the crannies;
Hold you here, root and all, in my hand,
Little flower, but if I could understand
What you are, root and all, and all in all,
I should know what God and man is."

PROF. G. G. GROFF, *Bucknall University*.

THE HORSE CHESTNUT.

As the inquiry is often made in regard to the possible use of the nuts of the Horse Chestnut, it may be interesting to some of your readers to know the statements of the Department of Agriculture on this subject, as given in its last Report, which is as follows:

They (the nuts) are sometimes boiled, which reduces the bitterness, and are then fed to poultry. When the nuts are dried and reduced to a coarse flour, the bitterness is removed by simply washing the flour with water. A paste made with the flour by washing is used by bookbinders and paste-board manufacturers, its bitterness saving it from the attack of insects. The bitter principle is called esculin.

The following products are obtained from the nuts in France: 1, an alkaline

lye from the burnt seed-vessels; 2, a charcoal from the skin of the nut, which form the base of different printing inks; 3, from the amylaceous pulps the fecula is extracted, which can be transformed into dextrine, glucose, alcohol or vinegar; 4, a fatty matter which serves to make a kind of soap, and which, also, is employed to render certain mineral colors more fixed and solid; 5, a yellow coloring matter which serves for various purposes of dyeing; 6, the ashes of the burnt nuts contain 75 per cent. of potash; 7, the bark has been used as a substitute for cinchona; 8, tannin is found in all parts of the tree, leaves, bark and fruit; 9, water in which the nuts are boiled is used for bleaching hemp, flax and other fibers.

S.



FOREIGN NOTES.

CLEMATIS JACKMANNI ALBA.

Some quarter of a century ago I had learned to appreciate the extraordinary value of *Clematis Jackmanni*, and when admiring it the exclamation frequently arose, "What a glorious thing a white Jackman would be!" At that time I had just succeeded in raising the beautiful set of patens varieties—Miss Bateman, Albert Victor, Lady Londesborough, Lord Londesborough, and a host of others, all lovely, and still holding their own, as they are still unsurpassed. I tried all ways I could think of, and at last after—I am afraid to say how many—years I succeeded in getting a cross between Jackmanni and white patens. From this number of seedlings no break at all appeared of any importance, except the present subject, but it flowered, and I was delighted, and showed it to one or two people, and told many more; its after history is well known—its hairbreadth escapes, almost total loss, its disappointments, its condemnations. I had planted out a specimen, and watched its opening flowers, when, to my disgust, it produced a nondescript, dirty bluish abortion. I said, "Propagate no more!" and for a year or two I crest-fallenly admitted to all my friends that Jackmanni alba was a disappointment, and should never be sent out. After a time, however, I remembered the parable of the Fig tree, and said, "Dig about it, and try again." It was done, and at last, in 1883, it appeared in public in its true form. A good many thousands have now been circulated over the world, and although I have had some very pointed questions put to me respecting these abnormalities, one or two abusive letters, and one case of a Dutchman who refused to pay, I may say that altogether I am quite satisfied with my child: but its habit of producing the nondescript flowers is very curious indeed. The flowers produced from the old wood during the months of May, June and July, are double or semi-double, solitary, and of a bluish French gray; while those produced from the young shoots, in August and September,

are single and white, in pairs on a long raceme, showing as many as ten pairs and a terminal on a string. This is one of those freaks of nature which are such sore puzzles to the poor unscientific ones. It appears to me that the union of the blood of patens, a spring-flowering kind, with Jackmanni, an autumn type, is complete so far, but that a kind of rivalry, if I may use the term, is set up to see which type is the stronger. As far as my experience has gone, the patens form is never white, and only flowers when the old wood is left growing, but always appears during May, June and July, while no Jackmanni form is ever seen during those months; on the other hand, when the old wood is cut away no patens is ever seen, but Jackmanni commences and produces a mass of flowers on the shoots of the year, during August, September and October, as true Jackmanni does.

I have one other case, perhaps equally curious, though different; the kind named *Proteus* produces large, double flowers about June; it then rests a month or so, and then commences to flower again, producing its second crop of flowers quite single, but of the same color.

I wish some of the thousands who have grown Jackmanni alba would give their experience, because it seems to me a very interesting problem, and it would be well to know if the plant has perpetrated any further freaks. As far as I know, the purple Jackmanni never flowers in the abnormal way just described with regard to alba, whether allowed to flower on old or young wood, though in both cases (purple and white) the four or six parted flowers are produced on plants more or less robust. If very strong, the first burst of flowers will, many of them, be six parted in both kinds.

CHAS. NOBLE, in *Gardeners' Chronicle*.

NOVELTIES in plants and seeds are scarcer this year than usual with European seedsmen and florists, and yet there are a few good things; but among those that will be offered it may be expected that a considerable share will be of no value.

OSTROWSKYA MAGNIFICA.

The English and European journals have recently published an account of a remarkable plant that promises to become widely known in a short time. The accompanying engraving, prepared from one published in the *Gardeners' Chronicle*, is reduced one-half from the natural size. The plant is an herbaceous perennial, quite hardy, and of easy culture. The plant and flowers were recently exhibited in London, before the Royal Horticultural Society, and received a First-class Certificate.



OSTROWSKYA MAGNIFICA—ONE-HALF NATURAL SIZE.

The *Journal of Horticulture* says: "The flowers are somewhat suggestive of *Campanula macrostyla*, the corolla shallow, five or six inches across, with seven or eight roundish lobes. The color in the specimens shown was a soft mauve with slightly darker veins. The stems are strong, four or five feet high, with oblong leaves arranged in whorls of four or more, and the flowers are borne either singly or in terminal racemes."

The *Gardeners' Chronicle* says: "It is a hardy perennial with tuberous roots. As shown, the stem is about three feet in height, green, sprinkled with small red spots, with four-leaved whorls at intervals. The leaves are glabrous, rather fleshy, short stalked, oblong-acute, coarsely toothed. The inflorescence is cymose, the flowers on long stalks, at first pendulous, afterwards nearly erect; when fully expanded

they measure five and three-fourth inches in diameter. The sepals are linear-lanceolate, without appendages at the base, shorter than the bell-shaped, pale lilac, eight-lobed corolla, the veins being of a darker bluish-lilac color. The eight filaments are dilated at the base, the style beset with collecting hairs, and the inferior ovary deeply furrowed.

"The plant, despite a paleness of color in the flower, is certainly one of the finest herbaceous plants ever introduced, and as there can be no doubt of its hardiness, and little of any as to its adapting itself readily to cultivation, it is sure to become a popular favorite."

The plant was discovered in Asia, by ALBERT REGEL, on the high mountains of Eastern Bokhara.

VINE MILDEW, POTATO ROT, &c.

It is noticed by the *Gardeners' Chronicle* that M. COIGNET, in the *Kyne Americaine*, recommends the use of a fine powder containing copper sulphate for the vine mildew, *Peronospora*, as preferable to liquid solutions, which necessitate nicety of manipulation, troublesome water carriage and powerful spray pumps which readily get out of order—inconveniences which do not apply to the distribution of fine powder by means of bellows. M. COIGNET'S powder consists of precipitated sulphate of lime (gypsum), which is made to take up ten per cent. of a solution of copper sulphate. The result is a powder infinitissimally finely divided, in which part of the copper is reduced to the state of oxide, which acts slowly, and part remains as sulphate, which acts quickly.

It advises its readers to try this substance in the manner indicated, on Po-

tatoes infected with the Potato rot, another species of *Peronospora*, and we may add that the Tomato should come in for a share of the trial.

INDOOR PLANTS.

The dweller in Berlin knows well how to appreciate the value of evergreen plants for indoor decoration, and an infinite variety is to be found in our flower markets. In the first rank are *Latania borbonica*, *Phoenix reclinata*, then *Dracæna indivisa*, *Aletris fragrans*, *Philodendron pertusum* and *Araucaria excelsa*. Besides these there is the favorite *Fica elastica*. One or more specimens of these plants is to be found in every home, and next to them as indoor plants rank *Rhapis flabelliformis*, some *Dracænas*, *Cordylines*, and more especially certain *Cactæ*. Of the latter, very fine specimens are to be met with often in the dwellings of the poorer classes. Among such plants, too, are some sorts of *Pelargoniums*, notably the so-called "Rose" *Pelargonium*. *Aspidistras*, too, which are practically indestructible, are naturally seldom wanting, nor are *Dracænas* and the equally abundant *Curculigo recurvata*.

Berlin correspondent of *The Gardeners' Chronicle*.

THE FRUIT SEASON IN ENGLAND.

The fruit yield of nearly all kinds is very light the present season in Great Britain, and the market this fall and winter will undoubtedly be good for all the first-class Apples that can be sent to the English market. A cool, wet summer has proved unfavorable, reducing both the amount and the quality of the fruit far below the average.



PLEASANT GOSSIP.

BULBS AT KEY WEST.

I would like for you to inform me, through the columns of your MAGAZINE, why I can get no bulbs of Tulips, Hyacinths, &c., to come up and bloom in this place? I have tried them at various seasons of the year and the result has always been the same. As you may be aware, we have no frosts here at all, and our seasons are altogether different from yours, or even of other places on the main land of this State. Our best time for growing anything is in the fall, commencing about the first of October. Could bulbs be had so that they could be planted about this time (August 17th), or a little later? Should bulbs be buried entirely, or should their tops be left exposed?

What annuals would you recommend as the most likely to do well and give satisfaction in this hot, dry and tropical climate? Can you give any reason why double Hibiscus' bloom drop and never come to perfection. I have several of different colors, and have never had a perfect flower from any of them.

C. B. PENDLETON, *Key West, Florida.*

The climate at Key West is too hot for the bulbs named. They require several months of cool weather in which to make roots before any healthy growth can take place. At the most, only a feeble flower stem might be pushed out at the expense of the nourishment contained in the bulb, in the high temperature of Key West; and it is probable that, if this flower stem pushes, it almost immediately perishes by the heat. It is not practicable to send Tulip and Hyacinth bulbs at the time mentioned. In this locality the bulbs are set three or four inches below the surface of the soil, but that they would succeed in the locality inquired about, at any depth, is doubtful.

The only annuals we can recommend for trial there are the following: Antirrhinum, Centaurea Cyanus, Petunia, Phlox Drummondii, Portulaca, Scarlet Salvia, Zinnia and Mirabilis.

PRUNING GOOSEBERRIES.

Can you tell me how to prune Gooseberries?

MRS. E. V. B., *New Almaden, Cal.*

Gooseberries are usually grown either as low bushes, branching from the surface of the ground, or, what is better, as low standards with a clean stem of six inches to a foot or more in height. In the latter case, which is much the better

and neater method, all suckers should be kept cut away close to the stem, clearing the earth away, if necessary, for the operation. Presuming the bushes in question to be more or less established, they should first have their main branches thinned out, so as to be five or six inches apart at their extremities, or even farther than that rather than nearer. The main idea to be borne in mind is that the fruit is given by wood of a year old or more, so that when once the bush is formed with, say ten or fifteen main branches, all others may be kept cut away. The side shoots on these main ones to be kept pruned into two or three buds each year, in fall, winter or early spring.

JAMES BISHOP.

VARIEGATED CARRION FLOWER.

I send, by mail, what I suppose is a Cactus. I have had it two years, and this summer is the first time it has bloomed. It has five petals, of a yellowish color, with brown spots all over it; in the center is something resembling a cup, in which are the stamens and pistils. It has a very offensive odor. Please inform me, through the MAGAZINE, the name of it.

C. H. H., *Norristown, Pa.*

The plant is *Stapelia Curtisii* or variegata, a species of Carrion Flower. The *Stapelias*, of which there are numerous species, belong to the *Asclepias* family. They are natives of South Africa, and delight in a warm atmosphere with a full exposure to the sun; the flowers are very interesting but malodorous. The plants are easily raised in a warm, dry place in the greenhouse or window garden.

PANSIES—ROSES—GLOXINIAS.

Please tell me in your next MAGAZINE what is the best soil for Pansies,

Also, when taking up Roses to store in a cellar for the winter, should they be put in a dark place or before a window, if there is one? And is it better to keep them in the cellar after they begin to grow, or to bring them out of it into the living-room? Sometimes mine start vigorously and then die after being set in the ground. Is it because I do not let them remain long enough in the dark?

Will most of the Bourbon Roses stand the winter where La France will? I have a La France and a Queen of Bedders which lived in the ground last winter, and have other Roses I would like to leave

out if they will be likely to live—Queen's Scarlet, La Phoenix, etc.

What is the cause of Gloxinia buds blasting?

R. M. L., *Coventry, Conn.*

The Pansy is not very particular about soil if it be only rich and well drained. A low, moist and heavy soil, or a light, poor one, is not suitable.

Light in a cellar is not necessary for storing Roses, in fact, a dark place is better; if planted out early in spring they will not start very much in the cellar, and so there will be no necessity of potting them and taking them into the living-room. If the tops start, as described, and then the plants die, it is evidence that the roots have been injured, and are not capable of performing their work.

Most of the Bourbon Roses will usually stand the winter outside if well protected by banking up with soil and covering with leaves and evergreen boughs.

Lack of heat and too dry an atmosphere may be the cause of the trouble with the Gloxinia buds.

FUCHSIA NOT DOING WELL.

Fuchsia Phenomenal does not grow or do well. What shall I do with it? I have it at the north of the house in pot, in good soil.

S. Q. L., *Mankato, Minn.*

All that can now be done is to allow the plant to ripen its wood, and then store it away until spring. Then plant it out, turning it out of the pot. Or else, start it in pot in the window in April, and keep it in the window.

SEED BUSINESS 60 YEARS AGO.

In looking over some old newspapers, a few days since, I came across an advertisement of which the enclosed is a *verbatim* copy. What a god-send it would be for a seedsman now-a-days if he could put up any shape, size, color or variety of Melon, with a "prevailing pineapple flavor," all out of the same lot. Surely, we must have progressed backwards, for we don't think of such a thing now-a-days, let alone do it—at least, no respectable seedsman does—and I am glad to say that there are many of this class.

GEORGE S. CONOVER, *Geneva, N. Y.*

ADVERTISEMENT from the *Ontario Chronicle*, published by FRANK COWDERY, Volume II, No. 14, Geneva, N. Y., February 28, 1829.

MELON SEED.—A small quantity of Seed, from Melons raised near Utica, warranted superior to any ever before introduced into this section of the State.

In shape they resemble pineapples, oranges, lemons and acorns. Some of them are large and small round, oblong or oval, and cheese shaped. In color, they are green, scarlet, orange and cream; the prevailing flavor is that of the pineapple, and they are decidedly the most delicious fruit known; as an evidence of the estimation in which they are held in England, the fact is mentioned of their selling in the London markets at one half, to one guinea each. The above is part of the private stock of a gentleman, who has for seven years cultivated this fine fruit, during which time great care has been uniformly taken in keeping the vines separate from all others.

For sale in bags at 12½ and 25 cents each by G. & S. MOUNT at the store lately occupied by N. AYRAULT & Co., and no where else.

Geneva, Jan. 27, 1829.

A MINNESOTA LETTER.

I have been wishing to write to you for a long time. I will ask a few questions which you can answer in the MAGAZINE.

What flowers and vines will grow best here? Our soil is sandy and good. It is cold here; one year since we came here there was frost in every month but one, that was July. This season we had a cold spring. I covered up my flowers every night but one all the month of May.

What vine will be best for the arbor? It is covered with a native vine now, that some call Wild Cucumber. It has prickly burs. We had a frost in August that nearly killed those wild vines and destroyed the Morning Glories entirely, it even froze the buds off the Petunias so they went out of flower, but they soon recovered. The Salpiglossis has not got over it yet, but it is not always so cold.

Last year, I had the largest Pumpkin vine I ever saw, but all the Pumpkins blighted. Sometimes we have Melons and Cucumbers, and sometimes they fail; we shall have none this year.

But it is not so cold every year. We do not often lose our Wheat, but this year all the late Wheat is damaged, except in one strip of ground about eight or ten miles from this place, where the farmers say the frost has not done any damage hardly. I think they must be better people there, so the Lord spared them.

I start all my plants in the house, except the hardy ones. I sow the seed in boxes and water them, and lay a wet cloth or paper over them, then fold a dry cloth over them and set them up stairs near the stove pipe till they come up, then I set them out of doors all the warm part of the day and bring in the house or cellar at night, till it gets warm enough to set them in the ground. I do not want any flowers that will not pay the cost.

My Alonsoa just commenced to bloom when the frost came and spoiled the flowers. I will not try them again. My Adonis did not have so large a flower as I thought it would, but I like it, it is a neat little blossom and bears the frost.

MRS. M. P. H., *Edna, Minn.*

This letter pretty well answers the questions it contains. Almost any thing would grow in the soil if the climate was warmer and the season long enough. Bulbs, and hardy perennial herbaceous plants, and flowering shrubs should be the main dependence.

ROSES.

The rain has beaten the Rose bushes in the garden until they are quite bare, and the sun refuses to shine long enough to aid the buds to burst open. April seems to be capriciously inclined to try to reign twice during the year, for the month of June might easily have been taken for the month of April. It rained so frequently that many a love of a bonnet was spoiled, and no childish songs of "rain, rain, go to Spain," was heeded. Rain came to Paris and remained there. Garden parties were put off from day to day, waiting for sunshine and pleasant weather, and finally given up entirely and replaced by teas. They are still in vogue, called "At Home."



HAMMOCK OF ROSES.

The fashionable flowers for tea table decorations are Roses, and the expression bed of Roses is changed to Hammock of Roses. This hammock was the floral center piece on the dinner table at a banquet given by patriotic Americans on the fourth of July. There are ten thousand resident Americans in Paris, many of whom are still American in feeling, and honor the anniversary of this glorious day. There are thirty thousand Americans residing at South Kensington, London. This table ornament is so simply made any lady with floral taste can make it, and will be compensated for time and labor spent in doing so. The cut does not do it justice, it needs the snowy damask dinner cloth and gas light to bring out the effective appearance of the hammock, which was made of silver threads or cords. The rope which attaches it at either side to the stand, or rest, is made of wild grasses, and the stand of silk threads, except around the wooden frame. The Roses were tossed

lightly in and were of red and white. They are the fashionable flowers of June, July and August.

An American Miss wished her wedding dress trimmed with Rose buds, and would have insisted upon its being decorated with them until informed they were destined only for the dead, and white Daisies instead decorated the satin robe.

At the "At Home," given last week by an American family, the tea table stood beneath an upturned or raised floral umbrella, composed of red and pink Roses, with a fringe of Maidenhair Ferns. The table was a small one, and was placed in an alcove, but the effect was a striking one, as it was raining.

A new fashion of decorating a dinner table was seen at a recent dinner. The tables were decorated with the most wonderful display of antique silver bowls filled with velvety red Roses. The effect was at once artistic and unique, for very often a dinner table has an insignificant appearance when overladen with delicate flowers of a pale tint, fit only for a tea table or maiden's boudoir.

A Louis XIV drawing-room was gay with delicate single-leaved Roses, at an afternoon "At Home," and an Italian quartette, composed of four Italians in costumes of troubadours, played, as only Italians can do, on their mandolins. A little sprite of an American girl, looking as if she might have peeped out of a bed of Roses, Miss OLLIE BERKELEY, of New York, only seven years of age, attired in Kate Greenway dress of pale blue silk, recited "What They Do at the Springs," carrying us back to Saratoga in feeling.

Roses excite more interest at this season than in May, when the world in general could choose from the largest selection at the flower show. They were too busy then with other amusements.

Theaters are closing, or closed, and Parisians are seeking their villas, to find the hot-houses and gardens beaming with Roses, and in the spare time, perhaps the first they have known for years, realize how much this queen of all flowers does to decorate home. Monsieur has many a chat with the patient gardener who educates him to the slightest caprice of his favorite queen Rose; and if he select the sensitive Grace Darling Rose to-day, he will be loyally patriotic to the coarse Etendard Jeanne d' Arc

Rose to-morrow. He cannot be in better company, for all around he sees Marechal Niel, Cloth of Gold, Perle des Jardins, Perle de Lyon and Amazone, of the purest yellow tints, Roses near by Abel Grand. Black Prince, Emilie Hausburg grand as a maiden, but capriciously unreliable. Gloire de Dijon, and gloriously beautiful Sunset, not forgetting the entire climbing family, as he breaks off a Bouquet d' Or Rose, he gives the old gardener, or should do so, *carte blanche*, for the right to purchase a specimen of every Rose in existence, and leaves the hot-house with a respect for his gardener and finds that the term *mon ami*, my friend, becomes him ever after.

The French gardener is generally an educated person. I remember chatting with one at Chenonceaux, near Tours, France, and not distant from the Chateau de Chenonceaux, the old home castle of FRANCIS First. I recall with pleasure the chat we had, all about Roses. He was an educated gentleman, who gained a large income, as every Rose grower may, from the culture of Roses, securing the most delicate and choicest, and not neglecting the hardier, prolific ones. He recalled to mind all the old legends about Roses.

The Rose is called the Flower of Martyrs, and is said to have sprung from the ashes of a holy christian maiden, who was burnt at the stake near Bethlehem.

A Greek legend tells of the lovely maiden, Rhodanthe, who was driven by the people to take refuge in the temple of Diana, was transformed into a Rose tree, bearing both red and white Roses, and her pursuers were changed into Briars.

Another tale states that the red Rose sprang from the blood of Venus when she was wounded by a thorn in the foot, while searching through the woods for Adonis, and the white Rose sprang from the tear she shed over his dead body.

Then we recalled the fact that the beads used by Roman Catholics to mark the repetition of certain prayers, were formerly made of Rose leaves pressed firmly in round moulds and strung together. This chain, after being blessed by the Pope, or some priest, was called a rosary. He showed me young maidens making their rosaries of the natural flowers. It is a universal custom in the

south of France. Another old legend tells how attar of Roses came in vogue.

The Princess Nourmahal, the lovely light of the harem, in her capricious love of novelty, caused sufficient Rose water to be collected to fill a canal, but the heat of the sun caused it to evaporate quickly, when only an oily substance remained in the bottom of the basin, emitting a most delicious perfume, the first hint of that costly attar of Roses.

I bade him good-bye, never recalling to mind our chat of Roses until this moment, but in all my travel I have never seen such a perfect collection.

The Parisian florists say there is a want among Roses of a vigorous variety of a pure and brilliant rose color, for that term is frequently made to indicate the most widely different tints.

Suzanne Marie Rodocaniche (Levêque, 1884) flowers of a pure rich rose color, also Madame Bois (1886) of a very brilliant rich rose color, both much used.

They predict a great demand for single Roses, claiming that they are more effective for decorations.

Diamonds and jewels are laid aside until the winter campaign, and Roses are challenged to replace them.

The prettiest ball dress made by WORTH, so very fairy-like in its delicate texture, called a dream dress, was trimmed with a garland of pale pink Roses.

The loveliest bonnet of the season was mitre-shaped, decorated with one single Rose, Cloth of Gold, with ugly looking thorns, looking as if freshly culled from the garden.

Porcelain, the very newest has the rose design. Mousselines and Bengalines are designed with Roses, showing that Roses reign supreme in the fashion world.

Ladies are busily engaged making their rose jars, it is a lasting pleasure, and they cannot be bought. The jars are sold, but not the delicious aroma, it requires months of care and a good selection of Rose leaves; it is said that white Rose leaves and the deep pink ones, will emit the most delicate perfume.

There are no more empty fire-places. They are filled with moss and clambering vines, from which peep the little button Rose, always in bloom. It requires no more care to decorate a fire-place two or three times a week than to fill vases with flowers. They were never intended for

flowers, but for grasses. Tear down the costliest fire-board, which, at best, is ugly, and place instead nature's ornaments there, select the commonest and hardiest ones, they will be more effective than the most fragrant exotics.

At an evening reception, an old mantel coming from some old chateau, a most exquisitely carved one, was duly admired, but the attention of all was called to the graceful decoration of the fire-place.

A number of fairy lights had been placed among a bed of buds, leaves and sedge grass; how it was arranged was known only to the florist, but all declared there should be no more empty fire-places, if flowers could ornament them.

Fashionable brides and bridegrooms stand upon carpets made of Roses or walk upon Rose leaves. Wedding bouquets are of mixed Roses.

The Paris newspapers allude in a laughable manner to a common cart load of Roses having been sent to the match girls in London, to wear as distinguished badges at their late strike.

The large baskets of fruit intended as an offering to friendship are all decorated with Roses, thus we see Peaches reclining upon Roses, Strawberries and Violets, Plums and white blossoms of Marguerites, Pears with Pansies of the yellow tints, Apples in a basket of wild grasses, Grapes and Figs are left with the leaf of their vine. This intermingling of flowers with fruits makes the windows of fruit shops very attractive.

Malmaison Roses tied with lilac satin ribbon a quarter of an inch in width, make a beautiful nosegay or breast-knot, or, better still, an ornament for the long lace boas, which are so fashionable at present.

If Paris was considered delightfully pleasant in May and June, when it was not raining, it is equally pleasant in July and August, causing strangers who come in those months, often for business purposes, to wonder why Parisians leave it to be crowded in some hot country house, called villa; but strangers see Paris always *couleur de rose*. ADA LOFTUS.

RATHER than shoot the birds that are troublesome in vineyards, a writer in *Orchard and Garden* advises the explosion of fire crackers under the vines; boys being employed to fire off the crackers.

THE WILDER EARLY PEAR.

The Wilder Early Pear is a choice seedling. The original tree, after several years' growth, was grafted to Buffum. Only one of the grafts grew, and the other branches bore the natural fruit, now called Wilder Early. The tree is a free, upright grower, wood dark, leaves small and light green. It bears every year profusely—too much so to secure good specimens, and the fruit should be thinned.



WILDER EARLY PEAR.

The fruit is yellow, with blush and a little russet, and of medium size; flesh white, juicy, sprightly and refreshing, very good quality, the best of its season. I have compared it with Giffard, Andre Desportes and others of its season. In size it is equally as large as the two named above, and superior in quality and beauty.

A reliable peculiarity of the Wilder Early is its freedom from rot at the core. Nearly all early Pears are held in light esteem from this tendency to rot, but the Wilder Early keeps as well as any late Pear would in warm weather, and I have not seen one rot at the core. If it rots, it is from the outside, like an Apple.

CHARLES A. GREEN.

CHRYSANTHEMUMS.

The season of Chrysanthemum shows will soon be at hand, and they will probably be more numerous than ever before. There seems to be no waning of interest in this flower, and there should not be, for it fills a place in the floral year when few other flowers show themselves, and it is then the chief ornament of the greenhouse and the window.

The two varieties shown in the colored plate this month are two of the most popular among the numerous kinds at present in cultivation, and they serve to show the drift of public taste which, though it approves the pompon and anemone forms, lavishes esteem upon the Chinese and Japan varieties, and upon the semi-double or half-single kinds of late introduction, such as here figured as James Y. Murkland. This variety was named in honor of the enthusiastic horticulturist and late Secretary of the New York Horticultural Society, who, but little more than two years since, passed from life in the midst of his labors. The petals of this flower are pure white surrounding a yellow center. The section of single Chrysanthemums is constantly enlarging, and we may expect

a much greater number of these varieties than ever before in the shows of the present autumn.

The Japanese variety, Belle Pauline, has white petals edged and tipped with lavender.

The introduction of the long petalled varieties has contributed greatly to the interest in the Chrysanthemum, and the single, or semi-double, varieties still further enrich the collection and gratify public taste. One cause of the popularity of the Chrysanthemum is undoubtedly its ease of cultivation—any one can raise it—yet no plant will show the effect of cultivation more than this, it can be moulded by the will and the skill of the operator.

LILY OF THE VALLEY FROM SEED.

Some seeds have ripened, this year, on my Lily of the Valley. What advantage, if any, might come if these seeds are sown? What culture should they have? I had thought of planting them in a pot sunk to the rim in the open ground, and leave them out all winter. The object of putting in a pot is so as to discover for a certainty that they germinate. Any information that you can give me will be appreciated.

W. J. P., *Cleveland, Ohio.*

There will be no advantage whatever in raising Lily of the Valley from seed

NAMES OF FLOWERS.

OLD SUBSCRIBER'S flowers are the Dwarf Double Sunflower, *Helianthus multiflorus pleno*, and, apparently, a White Ragged Robin.

NATIVE ORCHIDS.

I noticed in the August number of the MAGAZINE an article entitled "Native Orchids," at the conclusion of which the writer asks, "Have we no western Orchids?"

I have had some opportunity to become acquainted with the plants of this region, and have found growing here *Cypripedium pubescens*, and in Whiteside county, this State, a small, white species not described by WOOD in edition of 1873, *Class Book of Botany*.

Also, *Orchis spectabilis* in a few places. *Platanthera leucophæa* and *P. psychodes* (*Habenaria*), scarce; *Pogonia ophioglossoides* and *Calopogon pulchellus*, quite common in peaty bogs; *Goodyera pubescens* in one locality; *Spiranthes gracillis* in damp meadows in some places.

I have found most of them in Whiteside county, about sixty-five miles northwest of this place, as well as in Lorain county, Ohio. There I have also found the *Corallorhiza multiflora*, and *Goodyera* is plenty in damp woods. In northern Indiana, near Miller's Station, on the L. S. & M. S. Railway, I found *Cypripedium spectabile* in great quantity. It is occasionally found here, but I have not myself met with it.

It will be seen we have quite a list of Orchids, and I do not think I have them all, as I have met plants, not in bloom, which I felt sure were Orchids.

Should my notes add anything to any one's knowledge on the subject, I shall feel amply rewarded for the trouble of putting them in form.

J. U. HUETT, *Ottawa, Ill.*

CLUBBING THE MAGAZINE.

As the year draws toward its close, we are making preparations for the MAGAZINE for the following year, and to this end have arranged with the principal publications in all parts of the country to supply the MAGAZINE *in combination at reduced rates*. The attention of our readers is called to our advertised list elsewhere, wherein the rates are specified. The list is adapted to our wide extended list of subscribers, and few will fail to find their favorite papers and monthlies therein. *Consult this list and examine it carefully; please mention it to your friends*, so that in making up your yearly orders for papers and magazines *advantage may be taken of the favorable rates here offered*. Those who may desire different or greater combinations than those arranged in the list should write us, and state what they wish *and the lowest clubbing rates will be given*.

There is now time, before it is necessary to order for the New Year, to look over the whole ground and see how your serial reading matter can be procured to the best advantage, *the most and the best for the least money*.

We ask of all of our readers *one favor*—that they *mention our Clubbing List to friends and neighbors*.

THE FLORISTS' CONVENTION.

The Florists' Convention, held in New York, in August, was a pleasant, instructive and satisfactory meeting. Many subjects were discussed to advantage, and many acquaintances were made and renewed.

The hall of Cooper Institute, where the meetings were held, was profusely decorated with flowers, Ferns and plants. The Chairman's desk was fairly hidden by Roses and Lilies on the first day of the session, and on the second it was decorated with red and white Roses and yellow Golden Rod.

Mr. MAY, the President of the New York Florists' Club, welcomed the delegates in a short and appropriate speech. In the course of his remarks he described the great development of the florists' business in the city of New York. He said that in 1840, the pioneer among horticulturists, ROBERT BUCHANAN, carried all his stock in a basket, and thought

himself lucky if he cleared \$2.00 per day. Even so late as 1870, a committee in charge of the arrangements for an assembly ball could find but a little more than thirty Rose buds in all New York. Now thirty thousand Rose buds are sent to New York every day and the demand is increasing. On market days one hundred large wagon loads of Rose buds may be seen at the westside markets, besides the innumerable stands throughout the city.

A large exhibition of plants from every part of the country was made at Nilsson Hall. Even Florida and California were represented.

The following officers were elected for the ensuing year: President, J. N. MAY, of Summit, N. J.; Vice President, W. J. PALMER, of Buffalo, N. Y.; Treasurer, M. A. HUNT, Terre Haute, Indiana; Secretary, W. J. STEWART, of Boston, Massachusetts.

INSECT LIFE.

The Division of Entomology of the Department of Agriculture, issues a periodical bulletin under the above title. The following are a few extracts from a late number:

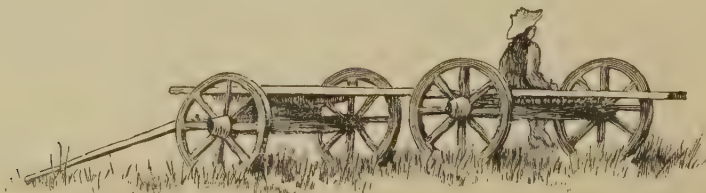
EAU CELESTE FOR THE ROSE BEETLE.—It is interesting to note that *eau celeste* (blue water, a simple solution of sulphate of copper, with ammonia), recently recommended by this Department as a remedy for mildew, at the same time rids plants of the rose beetle when they are so infested. Col. W. A. PEARSON, of New Jersey, states that it not only saved his vines from injury by mildew, but also rid them entirely of millions of these beetles, which were threatening to destroy the fruit and foliage entirely.

DESTROYING THE CURRANT WORM.—Results of experiments are requested by the very inception of your Department. I will relate a success. Last summer I

went out into the garden one morning and found the currant worm (*Nematus ventricosus*) had attacked one side of a Currant bush and one side of a Gooseberry bush. I sprinkled the parts of both on which the worms were at work, and then dusted on a compound of two parts of unslacked lime and one part of tobacco dust from a cigar factory, which killed every worm and stopped the injury. One application was sufficient.—V. M. FIROR, *Charlestown, W. Va.*

BUCKWHEAT FOR CUT-WORMS.—Have you ever noticed the effect of plowing under a crop of Buckwheat to keep cut-worms off the land? It has been our experience the last fifteen years that wherever we turn under a crop of Buckwheat we will not have any cut-worms on it; but this year has been the most remarkable of all. The seed we got from the North was of a very poor quality, hardly coming up at all. So we sowed the remaining seed, about two bushels, on a piece of about half an acre. This gave us a good stand. Now everywhere cut-worms are plenty, except on the little piece where the Buckwheat has been turned under. We always have been free from cut-worms on land we have plowed Buckwheat under, while our neighbors have sometimes their whole crop ruined by them.—ZIMMER BROS., *Mobile, Ala.*

DESTROYING CABBAGE MAGGOT.—Your kerosene emulsion has done wonders on *Anthomyia brassica*. We have used it on our Cabbage that was badly infested with the cabbage-fly, and now, upon examination, they are entirely gone and the plants not hurt the least, but your formula is too strong; nine gallons of water to one of kerosene has killed all the plants we put it on; after that we mixed it twelve gallons of water to one gallon of emulsion, and this has done no harm to the plants, but has destroyed all the worms.—ZIMMER BROS., *Mobile, Ala.*



OUR YOUNG PEOPLE.

SEQUEL TO A NUTTING PARTY.

In a school yard, at recess, one October day, were groups of the city High School boys and girls discussing plans for the great nutting party that was soon to come off. They were only waiting for Jack Frost and old boreas to put their heads together and signal the proper time to secure the coveted treasures. The first Saturday following would find them leaving the city.

There were two captains to be chosen, who were to make a list of the names of their young friends, selecting one alternately while the stock lasted, making sure, however, of equal numbers. There would be a ride on the street cars to the limits, followed by a short walk, at the end of which a very short trip by water would leave them at a "landing," from whence stretched away in the distance a beautiful autumn woodland, interspersed all through with groups of "shag-bark" Hickory trees. A glorious place it was to the city-bound boys and girls.

Here the two companies were to separate, each following their respective leaders, and when the day's work should have ended, the party having the most nuts, by measurement, were to be treated to a supper, or other entertainment, by the other side sometime within a month. Such was the programme.

In this particular instance, when the two captains had their lists of names made out, it was found that Bert Kirby had one more name than Gus Merton. Whereupon Gus exclaimed:

"See here, Bert, you'll have to drop one of your names to make us even."

"Not I. Every one of mine represent good working material. You must think up somebody else to add on to yours."

"I can't without choosing some one we don't like. You know, we've already gone back and picked up some leavings."

"Be careful; lower your voice, or there'll be no 'leavings' of you, directly. Are you lacking a boy or a girl?"

"A girl, of course. You know how it is Bert, any kind of boy would do to

even up with, but it's not so easy to find a girl that the other girls will be civil to, and like to have at the entertainment."

"That's so. At least, it's so with some of them. But my sister has been trained to be polite to every one, thank goodness."

"So has mine," said Gus, "but she can be very polite and freeze one to death, too. If you didn't know the ways of all school girls as well as I do, I shouldn't say this."

"I understand. But she'll get over that; she has too much sense to keep it up."

"I hope so; but the girls she's frozen up won't get over it—nor forget it of her, either. But I have an idea. Supposing we test the politeness of all the girls by inviting Ida Melrose to join us. You know she's a splendid student—is fitting herself for a teacher. Her mother does sewing, but her health has given out now, and my mother says it will be a sort of millenium for them when Ida once gets to drawing a salary, for the woman is miserably poor, but too proud and sensitive to be approached with assistance unearned. Last winter, when some work was sent to her, she was found bed-fast, though not on a bed, for in the room where the one fire was there was no space for her large lounge; so, instead, she lay on a couch that was made by placing on two chairs—what, do you suppose?—don't you dare mention it—an ironing-board. Nice, broad space, you know, to turn one's self on, to rest—so elastic, and springy, too. O, there's nothing like it."

"I should think not—unless it be another board. How anxious Ida must feel to get to earning something. Gracious! wouldn't our sisters hate to be as poor as that? I don't think Rose would be very amiable."

"One can hardly imagine," said Gus, "what they would be like. But, Bert, do you know that since we hear so much about labor strikes, and the social and

property distinctions that the anarchists are trying to break down, it has set me to thinking about such things. Father says there must always be property distinctions, because there will always be some who were born with a faculty for accumulating, while others lack that gift entirely, and still others who always manage to get rid of what they have when it has come to them through the thrift of other people.

"Now, I believe this, for it's as plain as a, b, c. Therefore, if I find, in the future, that everything I undertake goes all wrong, while you are successful at every turn, and have become wealthy, I shall conclude that you have the head for it and I haven't, and I sha'n't be jealous of your prosperity, because I shall know that you didn't create that brain of yours any more than I did mine, and I'll just ask you to give me a good situation somewhere in your business and pay me wages or a salary, and—hold on—I'm not done—and should that time come, I'll not begrudge you one thing you possess; because the responsibility of your particular make-up, and of mine, too, lies away back somewhere, quite beyond any knowledge or will of ours. Now, what were you going to say?"

"Why, this—that when you ask me for that situation—mind, when you do—I shall give you the very best one that you (your *brain*) is capable of filling. For your brain is to be your capital as my brain is to be mine—(you must know that I've talked with my father, too)—and you shall have the best salary your brain can command, and, in addition, a corresponding percentage of the yearly profits of the whole business, in common with the rest of my employees. You see, brain is to be capital in our business—not money."

"Good for you, Bert! I didn't know you were so far along. You've helped me to the very point I was trying to make in the case of Ida Melrose—that *brain* ought to be recognized in the social world, irrespective of either riches or poverty—."

"Or moral character?" interrupted Bert.

"O, no. There must always be pure principles and gentle manners and speech; and just this combination brings us back again to Ida, who, in addition, has as good a brain as any one in our

room, girl or boy. I'm determined to ask her to join us in our nutting frolic, and don't mean to take no for an answer. So good-bye for to-day."

What arguments Gus used to induce Ida to join them must be surmised. It is certain that at first she promptly declined going, and that as Gus still urged her she was candid enough to assure him that she would be considered only as an intruder among those girls, although she'd met them almost every school day of her life. Mrs. Melrose being present, finally said:

"If you could feel like going, Ida, dear, I should be very happy in the thought that you were having so pleasant a recreation." Ida looked wistfully toward her mother for a moment, and then said:

"Mamma's wish shall decide me. I will go. I can enjoy the autumn woods, and need not care for the rest, I suppose."

Her mother's eyes filled with tears as she said this, which touched Gus to the quick, but he hastened to say:

"The boys furnish luncheons and the sacks for the nuts, and the girls are to wear plain, strong gowns or pay a fine for violating the rule."

To tell the truth, however, Gus had not, until that moment, thought of the last clause of his instructions to Ida. But the next day the two captains put their heads together, and soon afterward this one restriction, with its penalty, was announced, to the great disgust of their sisters and to the amusement of the other girls, who made merry over it, saying to each other, "As if we didn't know what we ought to wear."

On the auspicious morning, when the two companies were assembling at an early hour, at the homes of their respective captains, Gus watched in vain for the arrival of Ida. Concluding, at last, that it was too much to expect her to face that company alone, he hastily slipped away and found her, sure enough, still at home. But in another minute he was hurrying with her along the street, and said, as they approached the gay company on the steps and in the hall,

"I'll make it easy for you," to which she quickly answered, "You couldn't possibly do that."

But the next moment he was calling out, so that all could hear, "I had to go myself to bring in a missing recruit. When I had decided to invite the best student in our room to join us to-day, she positively declined; but was finally over-persuaded to consent. But after all I find that she was going to give us the slip." Then, realizing for the first, the cruelty of her position, and that he was to blame for it all, he quickly added, "And now, Lillian, I put her in your care lest she suddenly be found missing." Of course, his sister could do no less than step forward and join Ida, while the boys promptly raised their hats, and the girls said, "Good morning," with more or less of surprise and coldness in their tones. Then the party was off.

The day proved to be a glorious one, and they found the woodland in holiday attire. The gorgeous autumn leaves had commenced their mosaic-work under foot, and the colors were tempting enough to have diverted the girls from the business of the day, had their captains allowed any dallying.

When, for a minute, the two companies were together at the landing, the girls of Bert's company stared at Ida in undisguised surprise. Bert quickly bethought himself, and called out, cheerily, "Good morning, Ida, glad to see you here," which was followed by cool greetings from the others, while Bert muttered to himself, "Girls are so hateful!" and Ida could but notice that Lillian and Rose Kirby hastily exchanged a few private words, and knew they were about herself.

The parties soon separated, and the nuts being plentiful, all were shortly absorbed in the one idea of exceeding "the other company" in the quantity gathered.

In the meanwhile, there was that going on in the city they had left, in reference to one of their company, which was only another of similar instances in which it seems that there must be a principle embodied in God's "eternal fitness of things" that is as sure in its results as is the principle of attraction of gravitation. This, these young students had lately been studying, and that, too, with no thought of unbelief, as they marveled at an unseen, silent force that could hold and keep a universe of suns and planets from clashing.

This other principle is not discussed in

natural philosophy. But it seems unerringly to find out and redress the wrongs of merited worth and christian faith when patiently suffering from oppression and injustice. Hence, it was that, for a week past, an English attorney, having finally traced Ida's father to that city, where he had died, had himself been seeking for some clue that would lead him to the Melrose widow or child. Neither city directory nor tax list had a name so poor, so obscure; but, at last—happy thought!—the school records gave the name, and Mrs. Melrose was found within an hour after Ida had left her.

There was a brief talk, but few words were needed. Ida's father was the only child of Alexander Melrose, who had come to America when young, quite against his father's will, and whose few letters home had been unanswered. After his marriage, his failing health and a destructive fire were the beginning of disastrous troubles which his death completed.

Without any volition on the part of Mrs. Melrose, hurried changes were now made. A strong woman and her husband soon appeared, who had orders to pack up such valuables as she wished to keep. Her best attire was donned, and then she was assisted into a carriage, a full purse put into her hands, and the driver directed to go first to the "Ladies' Emporium," where the lady would remain an hour or two, and from whence he was to take her direct to the Excelsior House. There she found a superb suite of rooms awaiting her occupation, to which the English gentleman escorted her, though first assailed by the bewildered coachman to know if he'd brought, "certain suah," the right lady, so changed was she by her new costume. A capacious trunk, containing a well selected outfit, followed. Here, for awhile, we'll leave her, while with reclining head and closed eyes, she tries to realize that all this sudden change in her present and future is a reality and not a dream.

When our nutting party reached the city landing that evening, they were surprised to find in waiting an elegant coupee, with ebony driver curiously inspecting their crowd. They were still more surprised when the incredulous Ida had answered to the call for Miss

Melrose, and a gentleman had handed her into the vehicle, where she exclaimed, "Mamma! is this you?" and yet more were they surprised when the gentleman, after seating himself beside Ida, waived his hand toward the young people, saying, "Miss Melrose will be happy to see her young friends at the 'Excelsior' for the next ten days, after which she will go to England to take possession of her fortune." And then they were driven away.

"Are we in fairy land?" asked Lillian.

"It would seem so," said Rose. Then, suddenly turning, she exclaimed, "Gus-

tavus Merton, you knew about this all the time. No wonder you were so gracious to Ida. You needn't deny it."

"I shall deny it, for I knew no more than you did, and am as much dazed this moment as any of you. But this I do know—if Ida had a good deal less sense than she has, she'd never recognize one of you girls again. Where's Bert—see here, old fellow, let's shake hands. Our venture had a pretty good wind-up, didn't it?"

"Well, rather. How soon do you think we can call?"

MARIA BARRETT BUTLER.

BULLFINCHES.

Pretty birds are the bullfinches, and more affectionate creatures for pets cannot be found than they will prove themselves, if treated with care and gentleness. They are not large birds, perhaps the size of a linnet, with full, soft plumage of gray, black and red coloring. The upper part of the body is of bluish-gray, breast red, the head, tail and wings black. The female is much duller in the general tints of plumage, and has but a slight tinge of the rosy hue in the chest.

The beak is of peculiar shape, being short, broad and bulging at the sides. The upper point of the mandible overhanging the under. The eggs are four or five in number, pale blue, spotted and streaked with pale orange brown.

The bullfinch has naturally a low, soft note, but without sufficient variation to allow it to be called a song, but he is a rare imitator, has a powerful memory, and consequently is capable of being trained to sing the songs of other birds, and even artificial music. Rarely however, can one bird be taught to sing more than one song.

They love to make their homes in woods or gardens, though when the latter places are chosen they are so destructive as to make themselves very unwelcome, for they eat the fruits and berries, and strip the young buds and leaves from trees in the most ruthless way, and sometimes it is even necessary to drive them off in order to protect the gardens.

They form the most devoted attachment for those who take care of them, and show no desire for their freedom,

but when allowed to leave their cage will perch upon the finger and sing their sweet songs without the slightest fear.

These birds are natives of Europe, Asia and Japan, and remain the year round in most parts of Great Britain. In Germany a great many of them are trained to sing, and much time, care and patience are required for the work, as nine months are needed to teach one bird to sing one song, and when well trained it will bring a very high price. The training begins when the bird is only a nestling, and must be continued after the first moulting, for the danger is that it will forget all it has learned, and it will then be impossible, or almost so, to teach it again, thus the bird will be valueless.

The ways of some of these birds when singing is extremely pretty, for the head is thrown back, the throat and chest fully expanded, and at times the little velvet head is moved from side to side, at others the body itself sways slightly.

They love the constant companionship of those who have charge of them, and the greatest care and attention must be given them, otherwise these interesting little birds will pine away and die for the want of the affection necessary for their happiness. Few persons, however, who care enough for birds to keep them, will allow them to want for advantages of any kind, for they become so attached to them that any thing they can do for their welfare is pleasure, and they will even deprive themselves of an outing occasionally if it would necessarily cause neglect of their pets.

M. E. B.



THE BULLFINCH.

EDITOR'S MISCELLANY.

THE STUDY OF INSECTS.

To the extent of many millions of dollars our crops of all kinds are injured by insects every year. Every cultivated plant appears to have some specially injurious insect enemy, and most plants are infested by several kinds. Man and the domestic animals are also sufferers from the predatory habits of these little creatures of many forms. Our national government is now expending large sums of money to discover the best means to combat the injurious insects. While this is so, it would appear that there is a sufficient demand that correct information in regard to insects and their habits should be more widely diffused, in fact, that entomology should be a popular study. The bee keeper and the silk-worm raiser, by their practical duties, become familiar with the habits of the insects they breed, and from this vantage ground they especially should be ready to go forward and make a study of insects generally; but the subject is an interesting and useful one to any who may undertake it. It is with pleasure we can now inform our readers of a new elementary work on insects that has been prepared especially "for the use of young folks, fruit-growers, farmers and gardeners." This is *Entomology for Beginners*, by A. S. Packard, M. D., Ph. D., published by Henry Holt and Company, of New York.

Dr. Packard is so well and favorably known as writer and author on entomology and zoology that no word of praise from us is needed. In writing the present volume he appears to have determined to simplify to the greatest possible extent and adapt the work to the needs and capacities of young people and beginners. It is profusely and beautifully illustrated, contains a glossary of terms for easy reference, and a very full index. The means of destroying insects most injurious to farmers, gardeners and fruit growers are given plainly and in full. The manner of collecting and preserving the insects are fully described. It is a very complete work, and cannot be too highly recommended.

PUBLICATIONS RECEIVED.

The following Bulletins have been received from the Department of Agriculture, and hitherto unacknowledged:

Reports of the Statistician, numbers 49, 50, 51, 52, 53 and 54.

Botanical Division, Bulletin number 5, Report on the experiments made in 1887 in the treatment of the Downy Mildew and the Black Rot of the Grape vine, with a chapter on the apparatus for applying remedies for these diseases, prepared by F. Lamson Scribner.

Bulletin number 6, Grasses of the Arid Districts.
Division of Chemistry, Bulletin number 18, Sugar Producing Plants.

Division of Entomology, Bulletin of August, 1888, Insect Life.

Division of Pomology, Bulletin number 2. Report on the Adaptation of Russian and other Fruits to the extreme Northern portions of the United States.

Division of Forestry, Annual Report for 1887, by B. E. Fernow.

All of these Reports are well printed, and are in every way a credit to the Department.

The receipt is hereby acknowledged of a copy of the Author's edition of the Report on Experiments on the Cottony Cushion Scale and the Red Scale, by Albert Koebele.

Various Bulletins have been received from the Ohio Agricultural Experiment Station, and from the Experiment Station at the University of Minnesota.

We have received and examined with much interest the Annual Report of the Entomological Society of Ontario, for the year 1887. As usual, it is full of practical information.

Transactions of the Massachusetts Horticultural Society, for the year 1887, Part 2, indicates the substantial character and the activity of this old and renowned Society.

FRENCH AND ENGLISH DICTIONARY.

The publishers, Cassell & Co., have performed a valuable service in the issue of a new edition of their French and English Dictionary, revised and corrected to the present time. New words are constantly finding their way into all languages, and readers of foreign tongues are often perplexed by words which they can nowhere learn the meaning of. The present work, which was compiled from the best authorities of both languages by Professors De Lolme and Wallace, and Henry Bridgeman, has been revised, corrected and considerably enlarged by Professor E. Rouband, B. A., of Paris.

The work has been brought down to the date of the seventh and latest edition (1877) of the Dictionary of the French Academy, and of the best English Dictionaries. The typography and printing are excellent, and this octavo volume of eleven hundred pages will be found as satisfactory in all respects as it is in its price of one dollar and a half, which any one can afford.

NATIONAL EXPOSITION.

A grand National Exposition is to be held at Augusta, Georgia, from October 10th to November 17th, 1888. Georgia and adjacent States will be represented in the products of the mines and forests, and all the fruits of the soil. The great variety of rich mineral products, and all the diversified resources of Southern fields and forests, and the production of Southern manufactories in many lines, will be arranged for the information and scrutiny of visitors. Farm products and live stock of every variety will be fully represented. An immense building has been erected to contain this display.

QUEER PEOPLE.

An attractive holiday gift book for the children has just been issued by Hubbard Brothers, Publishers, of Philadelphia, Pa. This is *Queer People with Paws and Claws, and their Kweer Kapers*. It is in pleasing verse and is profusely illustrated, all by Palmer Cox, who has great fertility of resource in depicting animals in comical attitudes and costumes.

Any bright child that can read will be delighted with it, and it cannot fail to amuse the older ones. It is quarto size, with handsome, illuminated covers.

MINNESOTA HORTICULTURE.

The Annual Report of the Minnesota State Horticultural Society, for the year 1888, has been received, thanks to Secretary Hillman. This is a very valuable report, and one from which some notes will hereafter be given our readers.